IN THE SPECIFICATION:

Please replace the paragraph beginning with page 2, line 4 with the following rewritten paragraph.

The need in the art is addressed by the system~~s~~ and method~~s~~ of the present invention. A system and method for sensing light transmitted with reduced optical aberrations into the interior of an enclosure is taught. A window is disposed on the exterior surface of the enclosure for allowing light to pass into the enclosure. A lens is disposed on the interior side of the window, defining a cavity between the window and the lens. A fluid is disposed within that cavity. An optical sensor is disposed in the interior of the enclosure, and positioned to receive light through the window and the lens.

Please replace the paragraph beginning with page 2, line 18 with the following rewritten paragraph.

The problem with complex shaped optical windows is that they induce optical aberrations that must be corrected in order to maintain high optical performance of the sensor system. What this has meant in the prior art is that systems designers have had to add one or more optical corrector elements to counteract the aberrations induced by the window. The window behaves as a lens, which refracts light according to the shape of the window, the indices or refraction of the window, the environment itself, and other components in the optical system in the sensor. While technology exists for building complex shaped windows and corresponding optical corrector elements, they are difficult to design, add to system cost, as well as increasing development time and effort. Thus, there is a need in the art for a system~~s~~ and method for reducing the aberrations and deleterious effects of conformal and complex shaped optical windows used with optical sensors.

Please replace the paragraph beginning with page 9, line 24 with the following rewritten paragraph.

Reference is directed to Figure 2, which is an optical diagram of a conformal window and optical sensor system according to an illustrative embodiment of the present invention. A bundle of light rays 34 from a distant object travel through water and are incident upon a conformal window 22 that is an ellipsoid with an improved fineness ratio. Thus, the index of refraction through the exterior surface of the dome results from a 1.33 to 1.4 index transition. On the interior side of the dome 22, an optical corrector element 24 is positioned to receive the light rays entering the system enclosure 20. The space between the dome 22 and the corrector element 24 defines a cavity 26 this is filled with fluid. In the illustrative embodiment, the fluid is water so the degree of refraction through the interior surface of the dome results from a 1.4 to 1.33 index transition. The design results in reduced refraction as compared to an air, or gas, filled cavity. The decrease in refraction angles is approximately one order of magnitude. Lower refraction results in lowered aberrations and less complex corrective requirements. The corrector element 24 controls the residual aberrations and couples the light rays to a perfect lens 28 and through an aperture stop 30 to be focused 38 on a focal plane 32 in the sensor. Figure 1 illustrates a computer-modeled systems based on the aforementioned parameters and is capable of diffraction limited performance at the focal plane 32, with the use of a constant thickness dome 22 and single corrective lens element 24. To clearly illustrate the benefit of the present invention on the illustrative embodiment, a second computer model was processed and resulted in the performance illustrated in Figure 2.